Appl. No. 09/658,177
Amdt. dated October 15, 2004
Reply to Office Action of July 8, 2004

Amendments to the Claims:

This listing of claims will replace all prior
versions, and listings, of claims in the application:

Listing of Claims:

1   Claim 1 (original): Circuitry to provide remote slow
2   shutter processing of a video signal from a video source,
3   comprising:
4   a memory, remote from the video source, to store a
5   digital representation of a selected video signal; and
6   signaling means to provide a write control signal that
7   controls whether a portion of the selected video signal is
8   stored in the memory.

1   Claim 2 (currently amended): The circuitry as recited in
2   claim 1 further comprising:
3   a selector to select one of a plurality of video
4   sources as ~~the~~ a selected video source to provide the
5   selected video signal.

1   Claim 3 (original): The circuitry as recited in claim 1
2   wherein the write control signal is a don't-write signal.

1   Claim 4 (currently amended): The circuitry as recited in
2   claim 1 wherein the signaling means synchronizes the
3   capture and refresh display of images from the ~~selected~~
4   video source when operating in a slow shutter mode.

Page 2 of 30

Appl. No. 09/658,177
Amdt. dated October 15, 2004
Reply to Office Action of July 8, 2004

1   Claim 5 (original): The circuitry as recited in claim 1
2   wherein the signaling means provides bidirectional control
3   signals, including the write control signal, between the
4   selected video source and the memory.

1   Claim 6 (original): The circuitry as recited in claim 5
2   wherein the bidirectional control signals further include
3   an enable-slow-shutter signal to enable operation of a
4   slow-shutter mode of the image sensor of the video source,
5   and the write control signal is a don't-write signal when
6   slow-shutter mode is enabled in the video source and the
7   image sensor has not accumulated an image for a predefined
8   slow-shutter speed.

1   Claim 7 (original): The circuitry as recited in claim 1
2   wherein the selected video source supplies a video signal,
3   and the write control signal is separate from the video
4   signal.

1   Claim 8 (original): The circuitry as recited in claim 1
2   wherein the selected video source supplies a video signal,
3   and the write control signal is superimposed on the video
4   signal.

1   Claim 9 (original): The circuitry as recited in claim 5
2   wherein at least one of the bidirectional control signals
3   is an adjusted voltage level of the video signal.

Page 3 of 30

Appl. No. 09/658,177
Amdt. dated October 15, 2004
Reply to Office Action of July 8, 2004

1   Claim 10 (original): The circuitry as recited in claim 5
2   wherein at least one of the bidirectional control signals
3   is identified by its width in a vertical blanking interval
4   of the video signal.

1   Claim 11 (original): The circuitry as recited in claim 5
2   wherein at least one of the bidirectional control signals
3   is a pulse applied to a portion of a vertical blanking
4   interval of the video signal.

1   Claim 12 (original): The circuitry as recited in claim 6
2   wherein the signaling means includes:
3   an enable-detector circuit to detect the
4   enable-slow-shutter signal; and
5   a generate-don't-write-signal circuit to generate the
6   don't-write signal.

1   Claim 13 (original): The circuitry as recited in claim 6
2   wherein the signaling means includes:
3   a generate-enable signal circuit to generate the
4   enable-slow-shutter signal; and
5   a detect-don't-write-signal circuit to detect the
6   don't-write signal, wherein the memory maintains the stored
7   signal in the memory when the detect-don't-write-signal
8   circuit detects the don't-write signal.

1   Claim 14 (original): The circuitry as recited in claim 2
2   wherein the selector includes an N x M switch.

Page 4 of 30

1   Claim 15 (original): The circuitry as recited in claim 2
2   wherein the selector includes a multiplexer.

1   Claim 16 (original): The circuitry as recited in claim 1
2   further comprising signal processing means for adding a
3   predetermined number of fields of the video signal in the
4   memory.

1   Claim 17 (original): The circuitry as recited in claim 1
2   wherein the memory stores a predetermined number of fields
3   to provide an image history track.

1   Claim 18 (original): The circuitry as recited in claim 17
2   further comprising signal processing means to analyze
3   motion between the predetermined number of fields and to
4   indicate the motion.

1   Claim 19 (original): The circuitry as recited in claim 1
2   further comprising:
3   a switch to provide an enable slow shutter signal to
4   enable remote digital slow speed shutter video processing
5   in the video source.

1   Claim 20 (original): The circuitry as recited in claim 1
2   further comprising:
3   an encoder to provide an encoded video output signal
4   from the digital representation of the selected video
5   signal in said memory, wherein a format of the selected
6   video signal is different from a format of the encoded
7   video output signal.

Page 5 of 30

Appl. No. 09/658,177
Amdt. dated October 15, 2004
Reply to Office Action of July 8, 2004

1   Claim 21 (currently amended): A camera comprising:
2   an image sensor to sense image information; and
3   a generate-write-control-signal circuit to provide a
4   write control signal when digital slow speed shutter is
5   enabled in the camera, wherein the write control signal is
6   to be supplied to a memory, remote from the camera.

1   Claim 22 (original): The camera as recited in claim 21
2   wherein write control signal is a don't-write signal.

1   Claim 23 (original): The camera as recited in claim 21
2   further comprising:
3   a detect-enable signal circuit to detect an
4   enable-slow-shutter signal to operate the image sensor in a
5   slow shutter mode.

1   Claim 24 (original): The camera as recited in claim 21
2   further comprising:
3   a switch to provide an enable-slow-shutter signal to
4   operate the image sensor in a slow shutter mode.

1   Claim 25 (original): The camera as recited in claim 21
2   further comprising video circuitry to generate a video
3   signal from the image information, wherein the
4   detect-enable-circuit detects the enable-slow-shutter
5   signal.

Page 6 of 30

Appl. No. 09/658,177
Amdt. dated October 15, 2004
Reply to Office Action of July 8, 2004

1   Claim 26 (original): The camera as recited in claim 21
2   wherein the generate-write-control-signal circuit provides
3   the don't-write signal by superimposing the don't-write
4   signal on the video signal.

1   Claim 27 (original): The camera as recited in claim 21
2   wherein the generate-write-control-signal circuit
3   superimposes the don't-write signal the don't-write signal
4   in a vertical blanking interval of the video signal.

1   Claim 28 (original): The camera as recited in claim 21
2   wherein the generate-write-control-signal circuit
3   superimposes the don't-write signal in a back-portion of
4   the vertical blanking interval of the video signal.

1   Claim 29 (original): The camera as recited in claim 21
2   wherein the generate-write-control-signal circuit
3   superimposes the don't-write signal as a pulse in a
4   vertical blanking interval of the video signal.

1   Claim 30 (original): The camera as recited in claim 22
2   further comprising video circuitry to generate a video
3   signal from the image information, wherein the
4   detect-enable signal circuit receives the
5   enable-slow-shutter signal on separate leads from the video
6   signal.

Appl. No. 09/658,177
Amdt. dated October 15, 2004
Reply to Office Action of July 8, 2004

1   Claim 31 (original): The camera as recited in claim 21
2   further comprising a switch to supply an external lock
3   signal to the image sensor, wherein the image sensor
4   acquires an image synchronized to the an external lock
5   signal.

1   Claim 32 (currently amended): A digital video memory
2   receiving a plurality of video signals supplied from a
3   plurality of video sources, respectively, that are remote
4   from the digital video memory, the digital video memory
5   comprising:
6   a memory to store digital image data representing a
7   selected video signal from a plurality of video signals;
8   and
9   write control circuitry to detect a write control
10   signal when digital slow speed shutter operation is
11   enabled, wherein the memory is updated based on the write
12   control signal.

1   Claim 33 (original): The digital video memory of claim 32
2   wherein the write control signal is a don't-write signal,
3   and the
4   digital image data stored in the memory is maintained when
5   the write control signal is detected.

1   Claim 34 (original): The digital video memory of claim 32
2   further comprising:
3   enable circuitry to provide an enable-slow-shutter
4   signal to enable digital slow speed shutter operation.

Page 8 of 30

Appl. No. 09/658,177
Amdt. dated October 15, 2004
Reply to Office Action of July 8, 2004

1   Claim 35 (original): The digital video memory of claim 34
2   wherein the enable-slow-shutter signal is superimposed on
3   the selected video signal.

1   Claim 36 (original): The digital video memory of claim 34
2   wherein the enable-slow-shutter signal is a pulse of at
3   least a predetermined duration in a vertical blanking
4   interval of the video signal.

1   Claim 37 (original): The digital video memory of claim 32
2   wherein the write control signal is superimposed on the
3   selected video signal.

1   Claim 38 (original): The digital video memory of claim 37
2   wherein the write control signal is a pulse having at least
3   a predetermined threshold voltage in a vertical blanking
4   interval of the video signal.

1   Claim 39 (original): The digital video memory of claim 32
2   wherein the write control signal is provided separate from
3   the selected video signal.

1   Claim 40 (original): The digital video memory of claim 32
2   further comprising:
3   an encoder to provide an encoded video output signal
4   from the digital image data in said memory, wherein a
5   format of the selected video signal is different from a
6   format of the encoded video output signal.

Page 9 of 30

Appl. No. 09/658,177
Amdt. dated October 15, 2004
Reply to Office Action of July 8, 2004

1   Claim 41 (original): The digital video memory of claim 40

2   wherein the format of the encoded video output signal is

3   progressive scan RGB format.

1   Claim 42 (currently amended): A video selector, said video

2   selector to receive a plurality of video signals supplied

3   by a plurality of video sources remote from the video

4   selector, comprising:

5   a selector to provide a selected video signal from a

6   plurality of video signals; and

7   a digital video memory having:

8   a memory to store digital image data representing

9   the selected video signal; and

10   write control circuitry to detect a write control

11   signal when digital slow speed shutter operation is

12   enabled, wherein the memory updates the digital image

13   data stored in the memory based on the write control

14   signal.

1   Claim 43 (original): The video selector of claim 42 wherein

2   the digital video memory further comprises:

3   enable circuitry to provide an enable-slow-shutter

4   signal to enable digital slow speed shutter operation.

1   Claim 44 (original): The video selector of claim 42 wherein

2   the write control signal is a don't-write signal, and the

3   memory maintains the digital image data stored in the

4   memory when the don't-write signal is asserted.

1   Claim 45 (original): The video selector of claim 42 the
2   write control signal is superimposed on the selected video
3   signal.

1   Claim 46 (original): The video selector of claim 43 wherein
2   the enable-slow-shutter signal is a pulse of at least a
3   predetermined duration in a vertical blanking interval of
4   the video signal.

1   Claim 47 (original): The video selector of claim 42 wherein
2   the write control signal includes a pulse having at least a
3   predetermined threshold voltage in a vertical blanking
4   interval of the video signal.

1   Claim 48 (original): The video selector of claim 42 wherein
2   the write control signal is provided separate from the
3   selected video signal.

1   Claim 49 (original): The video selector of claim 42 wherein
2   the selector is an N x M switch.

1   Claim 50 (original): The video selector of claim 42 wherein
2   the selector is a multiplexer.

1   Claim 51 (currently amended): A method of operating a video
2   system including at least one video source, the method
3   comprising:
4   providing a write control signal in response to an~~the~~
5   enable-slow-shutter signal; and

Page 11 of 30

Appl. No. 09/658,177
Amdt. dated October 15, 2004
Reply to Office Action of July 8, 2004

6   updating a state of a digital image from the at least

7   one video source in a ~~remote~~ memory, that is remote from

8   the at least one video source, in response to the write

9   control signal.

1   Claim 52 (original): The method as recited in claim 51

2   further comprising:

3   generating an enable-slow-shutter signal remote from

4   the at least one video source, wherein the write control

5   signal is provided in response to the enable-slow-shutter

6   signal.

1   Claim 53 (original): The method as recited in claim 51

2   wherein the write control signal is a don't-write signal.

1   Claim 54 (original): The method as recited in claim 51

2   wherein the remote memory is located at a different

3   location from the at least one video source.

1   Claim 55 (original): The method as recited in claim 51

2   wherein the write control signal is superimposed on a video

3   signal.

1   Claim 56 (original): The method as recited in claim 36

2   wherein the write control signal is provided separate from

3   a video signal.

Page 12 of 30